

Determination of Public Land (Rangeland) Health for 65044 ANDRUS RANCH

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for the implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these standards.

Field assessment worksheets and other available data that evaluate the local indicators were completed for this allotment. While habitat parameters may meet the Biotic standard, the habitat requirements for Special Status Species (lesser prairie chicken and sanddune lizard) habitat are a concern. Factors such as the mesquite encroachment in some areas and the low composition of the tall grass species required for nesting success must continue to be addressed to improve the existing habitat and prevent loss of habitat from fragmentation.

Based on the assessments, it is my determination that the public land within Andrus allotment #65044 meet the Upland Sites standard and (2) Biotic Communities, including Native, Threatened, Endangered, and Special Status Species standard but not at the desired level. There are no public land Riparian areas on this allotment, therefore this standard was not addressed.

/s/ T. R. Kreager

Assistant Field Manager

09/28/2005

Date

Standards of Public Land Health

Evaluation of 65044 ANDRUS RANCH Allotment

[06/02/2005]

The Roswell Field Office conducted rangeland health assessments at two (2) study sites within the Andrus Ranch allotment 65044. The assessments looked at the Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within the vicinity of each study site. Existing monitoring data was incorporated into and in support of the field assessment. The summary of each assessment is attached and shown in the following table.

Study Area or Assessment Area	UPLAND			BIOTIC			RIPARIAN		
	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet
65044-EAST-D093 (*)	X			X	*		N/A		
65044-WEST-D092	X			X	*		N/A		

Twenty-two (22) indicators for Rangeland Health were evaluated for public land on Andrus Ranch allotment #65044. Ten (10) of these assessed soil site stability, 11 hydrologic function and 13 biotic integrity. These qualitative assessments in conjunction with quantitative information gathered from previous data collected on two locations were utilized to assess the rangeland health of public land within this allotment.

West Pasture with an acreage of 451 or 182 hectares is within a CP-2 Deep Sand ecological site. The soil phase is a Roswell-Jalmar fine sands, hilly occurring on high terraces in the eastern part of the survey area. Elevation is between 3,900 ft/1182 m and 4,100 ft/1,242 m on 0-25% slopes. No livestock were observed at assessment. The majority of indicators assessed rated None to Slight and Slight to Moderate. Small areas of wind-scoured blowout activity were observed to rate this indicator Moderate. Shinnery oak (*Quercus havardii*) leaves were piled against obstructions and in depressional areas between dunes. A reduction in bluestem (*Andropogon* spp.) was observed according to the long-term composition and occurrence datum. Functional/structural groups rates Moderate as a result, due to over abundance of shinnery. Although weak, a physical crust exists but is broken in continuity in several places, resulting in a Moderate rating for this indicator. Some forbs do exist however in the form of spectaclepod (*Dithyria wislenzii*) and sunflower (*Helianthus* spp.). There is adequate litter to aid in water retention and infiltration. All other indicators exhibited normal ranges of variability from established parameters.

East Pasture, also a Roswell-Jalmar soil in a CP-2 Deep Sand is 910 acres/368 hectares in size. No livestock are using this pasture presently. Indicators of concern, rating Moderate are pedestals and/or terracettes, soil surface resistance to erosion and degradation, functional/structural groups, invasive plants, reproductive capability of perennial plants and physical crusts. There is pedestaling occurring on bluestem and threeawn giving an elevated appearance. Interspace ped samples melted rapidly using the soil site stability test. Some horizon loss was observed which suggests A-horizon organic matter has been compromised. Although there is estimated 50-60 percent litter, it has yet to break down and incorporate into a mulch layer. Little bluestem (*Schizachyrium scoparium*) is reduced in favor of threeawn (*Aristida* spp.) along with lesser amounts of hairy grama (*Bouteloua hirsuta*) which should be in more abundance. Mesquite is scattered throughout and does not pose an immediate threat to encroach. The perennial grass is somewhat limited in its capability to produce seed. The dry summer and past use have attributed for a portion of this limitation. There exists a very weak physical crust just under the sand. There are breaks in its continuity and is a minor interspace component. All other indicators rate None to Slight and Slight to Moderate exhibiting minor departures from normal range of variability.

Hydrology-

East pasture - The pedestals and/or terracette indicator rated as moderate. The recent dry conditions in combination with wind and water erosion has possibly decreased the amount of plant cover and possibly decreased infiltration into the soils which may have increased the amount of pedestaling of grasses. Soil surface resistance to erosion rated in the moderate category, with the soil stability test showing a rapid melting of the interspace soil sample. Organic matter is lacking on this site. The soil surface loss or degradation has rated out as moderate. The recent dry conditions, decrease in the strength of physical crusts and or absence of soil crusts, wind velocity, surface dryness, decrease in organic matter, and the decreased amount of surface plant cover has possibly increased soil surface loss to degradation. The physical/biological crust indicator rated as moderate. There was a lack of physical soil crusts in the area and there was a weak physical crust. All other indicators rated as none to slight or slight to moderate which shows a healthy ecological condition in relation to these other indicators.

West pasture - The wind scoured, blowouts, and or deposition area indicator rated out as moderate. The decrease in the strength of the physical soil crusts and or the absence of soil crusts, wind velocity, surface dryness, surface roughness, and the decreased amount of surface plant cover has possibly increased the amount of wind-scoured blowouts and deposition areas in the area. The litter movement indicator rated in the moderate category. The decrease in litter movement suggests that the dry conditions have had a negative affect on the growing conditions which decreases the amount of litter that is produced and litter movement. The physical/biological crust indicator rated as moderate. There was a lack of physical soil crusts in the area and there was a weak physical crust. All other indicators rated as none to slight or slight to moderate which shows a healthy ecological condition in relation to these other indicators.

Wildlife-

Evaluation of the integrity of biotic community considered several indicators as attribute indices for the area of interest. Biotic indicators are interrelated with several other indicators, including soil/site stability, hydrologic function, and vegetation. Several indicators are singularly biotic and address the vegetative aspect of the ecological site description, such as functional/structural groups and plant mortality & decadence.

In addition to the standard worksheet biotic factors, four specific wildlife indicators and descriptors are included in this evaluation. A unique assemblage of terrestrial species and avifauna can be expected to use the Mescalero Sands ecosystem. Of significance are the sand dune lizard (*Sceloporus arenicolous*) and lesser prairie chicken (*Tympanuchus pallidicinctus*) known only to occur within this ecosystem. The vegetation community of interest is the shinnery oak-tall grass type only found in this portion of the Field Office area. Key habitat components include sand bluestem, shinnery oak, sand dune lizard habitat features (dune blowouts), and lesser prairie chicken habitat features (booming grounds & nesting areas). The amount, condition and juxtaposition of these habitat features are used as habitat indicators for this assessment. The assessment begins by determining if the site is within "Core Areas" for lesser prairie chicken (LPC) and sand dune lizard (SDL). Other important wildlife species and their habitats, such as desert mule deer (*Odocoileus hemionus*), pronghorn (*Antilocapra americana*), and a variety of game and non-game species, are also considered in the assessment. This overall evaluation will focus on LPC and SDL available habitat with anecdotal commentary regarding the habitat for other wildlife species.

This is a small allotment with two pastures. Study sites have been established in both pastures. The southern portion of the allotment falls within the LPC and SDL Core Area albeit at the extreme western edge. The allotment lies in a transition area straddling deep sand and short grass prairie vegetation types. Habitat for both LPC and SDL is therefore somewhat limited. The habitat and population indicator ratings are reflective of this fact.

Three historical lesser prairie chicken leks have been documented in this allotment in both pastures. All three leks have been inactive for over ten years. There are no known active leks to be found in this allotment at this time.

A moderate habitat indicator rating for both pastures is assigned for LPC habitat due to decreased proportion of tall grass species such as sand bluestem to shrubs such as shinnery oak and sand sage. The invasion by mesquite and yucca also lends to this rating. LPC lek activity in the adjacent allotments has demonstrated a slight upward trend for the last ten years. Therefore, an LPC population indicator rating of moderate is appropriate. Blowouts are desirable and are evident in both pastures for SDL habitat; however it is not known if the lizard is colonizing them at present. At this level of assessment, an SDL habitat rating of moderate is also appropriate until such time as detailed surveys of the species are conducted. Since SDL population status is unknown at this time a moderate rating is appropriate as well.

Mule deer, pronghorn antelope, scaled quail (*Callipepla squamata*), mockingbirds (*Mimus polyglottos*), turkey vultures (*Cathartes aura*), and jackrabbits (*Lepus californicus*) have been observed in this allotment, as have various passerine birds, other small mammals, and reptilian species. Wildlife observations in this allotment indicate that they reside in it but their population status is unknown. In lieu of information indicating differently a moderate rating has been assigned for their habitats and populations. Wildlife population data for most species do not exist for this allotment therefore an assessment as to the status of the various species is not possible at this time.

In the professional opinion of the Assessment Team, public land within Andrus Ranch allotment #65044, meets Upland and Biotic standards. There are no Riparian issues present, therefore this standard was not addressed. See site notes and recommendations for further information regarding this assessment.

The (*) indicates that the assessment had one or more indicator(s) rated moderate/extreme or extreme. These indicators are:

- Special Status Species Habitat

These indicators by themselves are not enough to rate the site as not meeting a standard but may warrant future monitoring.

Recommendations: The only recommendation at this time for the Andrus Ranch is the repair and maintenance of the fences which are down in some places. For prairie chicken habitat, brush control may be beneficial to enhance a more mosaic landscape while bringing back the composition of bluestem to an acceptable level may be recommended.

RFOs Upland and Biotic Standard Assessment Summary Worksheet						
SITE 65044-EAST-D093						
Legal Land Desc	NENW 4 0100S 0300E Meridian 23		Acreage		910	
Ecosite	070BY063NM DEEP SAND CP-2		Photo Taken		Y	
Watershed	13060007060 MESCALERO					
Observers	NAVARRO/JAQUEZ		Observation Date		08/03/2005	
County Soil Survey	NM644 CHAVES NORTH		Soil Var/Taxad			
Soil Map Unit	RPD		Soil Taxon Name		ROSWELL	
Texture Class	NM644 FS		Soil Phase		ROSWELL-JALMAR	
Texture Modifier	NM644 FINE SANDS,HILLY					
Observed Avg Annual Precipitation			Observed Avg Growing Season Precipitation			
NOAA Annual Precipitation	11.51		NOAA Growing Season Precipitation		9.93	
NOAA Avg Annual Precipitation	12.99		NOAA Avg Growing Season Precipitation		11.42	
Disturbances and Animal Use:	No livestock at the present time. Fence is down in some places for this pasture. Current animal use is by wild ungulates, jackrabbits and insects.					
Part 2. Attributes and Indicators						
		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:						

S H	Pedestals and/or Terracettes			X		
Comments:	Elevation on threeawn and bluestem especially in flow paths.					
S H	Bare Ground				X	
Comments:	Current estimate is 30%.					
S H	Gullies					X
Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:						
H	Litter Movement				X	
Comments:						
S H B	Soil Surface Resistance to Erosion			X		
Comments:	Interspace soil ped sample melts readily; indicates reduced organic matter.					
S H B	Soil Surface Loss or Degradation			X		
Comments:	Organic matter is reduced.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:						
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups			X		
Comments:	There is a reduction in bluestem, especially sand bluestem and an increase in threeawn.					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount					X
Comments:	Litter amount is currently estimated at 50-60%.					
B	Annual Production				X	
Comments:	700 lbs/ac or kg/ha is the current estimate.					
B	Invasive Plants			X		
Comments:	Mesquite is scattered.					
B	Reproductive Capability of Perennial Plants			X		

Comments:	Capability is limited due to utilization on the bluestem, which should have started vegetative growth and producing seed head.					
S	Physical/Chemical/Biological Crusts			X		
Comments:	A very weak crust exists and is broken. It is a very minor component in the interspace.					
B	Wildlife Habitat			X		
Comments:	The proportion of shinnery to grass is too great.					
B	Wildlife Populations			X		
Comments:						
B	Special Status Species Habitat		X			
Comments:	The proportion of shinnery to grass is too great.					
B	Special Status Species Populations			X		
Comments:						

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	4	3	3
H	Hydrologic	0	0	3	4	4
B	Biotic	0	1	8	1	3

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not	May	Meets

		Meet	Need More Info	
Soil	Indicators rated as moderate are within the expected range for a deep sand site.	0	4	6
Hydrologic	Indicators rated as moderate are within the expected range for a deep sand site.	0	3	8
Biotic	Due to the reduction in bluestem and the over-abundance of shinnery oak, the ratio is not conducive to wildlife and special status species as well.	1	8	4
<p>Site Notes: This site is located approximately 1/2 mile east of Cato Road. Access was gained on foot crossing a pasture fence which is down in several places. There is a 80:20 ratio of shinnery to grass which may pose a problem for wildlife. Pronghorn and mule deer sign is everywhere and evidence of hedging of some perennial forbs and shrubs is apparent. Jackrabbit, cottontail and insects are abundant. Borrowing activity is apparent with claw marks on the side of the dunes appearing to be those of badger.</p>				

RFOs Upland and Biotic Standard Assessment Summary Worksheet						
SITE 65044-WEST-D092						
Legal Land Desc	SWNW 4 0100S 0300E Meridian 23		Acreage		451	
Ecosite	070BY063NM DEEP SAND CP-2		Photo Taken		Y	
Watershed	13060007060 MESCALERO					
Observers	NAVARRO/ARTHUN		Observation Date		06/30/2005	
County Soil Survey	NM644 CHAVES NORTH		Soil Var/Taxad			
Soil Map Unit	RPD		Soil Taxon Name		ROSWELL	
Texture Class	NM644 FS		Soil Phase		ROSWELL-JALMAR	
Texture Modifier	NM644 FINE SANDS,HILLY					
Observed Avg Annual Precipitation			Observed Avg Growing Season Precipitation			
NOAA Annual Precipitation	11.51		NOAA Growing Season Precipitation		9.93	
NOAA Avg Annual Precipitation	12.99		NOAA Avg Growing Season Precipitation		11.42	
Disturbances and Animal Use:	No livestock observed.					
Part 2. Attributes and Indicators						
		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:						
S H	Pedestals and/or Terracettes				X	
Comments:						
S H	Bare Ground				X	

Comments:	Now = 40%,					
S H	Gullies					X
Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas			X		
Comments:	Areas are small.					
H	Litter Movement			X		
Comments:	In blowouts and depression areas. Shinnery oak leaves.					
S H B	Soil Surface Resistance to Erosion				X	
Comments:						
S H B	Soil Surface Loss or Degradation				X	
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:						
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups			X		
Comments:	sand bluestem (<i>Andropogon halli</i>), little bluestem (<i>Schizachyrium scoparium</i>), sand dropseed (<i>Sporobolus cryptandrus</i>)					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount					X
Comments:	Now = 50%,					
B	Annual Production				X	
Comments:	Now = 700 lbs./acre,					
B	Invasive Plants				X	
Comments:	mesquite (<i>Prosopis glandulosa</i>).					
B	Reproductive Capability of Perennial Plants				X	
Comments:						
S	Physical/Chemical/Biological Crusts			X		

Comments:						
B	Wildlife Habitat			X		
Comments:						
B	Wildlife Populations			X		
Comments:						
B	Special Status Species Habitat			X		
Comments:						
B	Special Status Species Populations			X		
Comments:						

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	2	5	3
H	Hydrologic	0	0	1	6	4
B	Biotic	0	0	5	5	3

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	2	8
Hydrologic		0	1	10

Biotic	<p>Biotic indicators show some departure but remain sufficient. Continued evaluation to ensure the biotics remain at an acceptable level is recommended.</p> <p>The special status species (LPC) habitat is a concern.</p>	0	5	8
<p>Site Notes: No livestock present.</p> <p>High concentrations of shinnery oak. Little bluestem and sand bluestem were under represented.</p> <p>Other species: yucca (<i>Yucca</i> spp.), sandsage or oldman sage (<i>Artemisia filifolia</i>), threeawn (<i>Aristida</i> spp.), blue grama (<i>Bouteloua gracilis</i>), dropseed (<i>Sporobolus</i> spp.), sand bluestem (<i>Andropogon hallii</i>) and Misc. forbs</p>				

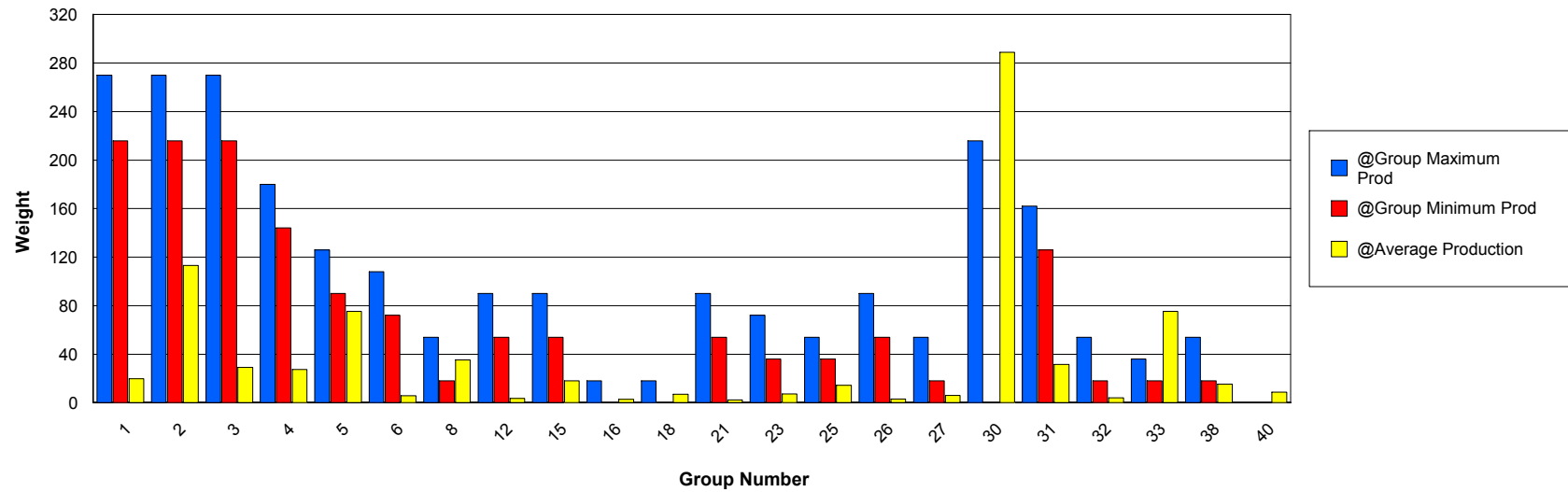
Functional / Structural Groups

Report Parameters

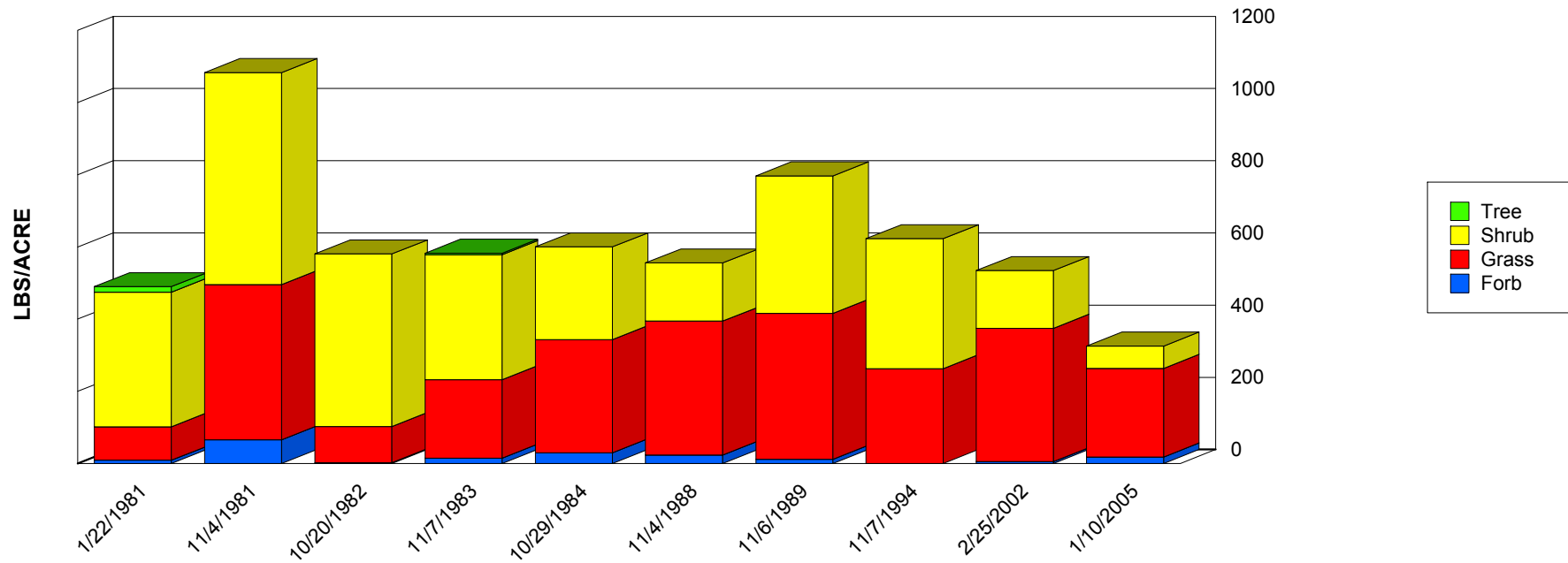
SITE NAME LIKE 65044-EAST-D093
 ON/AFTER 10/01/1980
 ON/BEFORE 09/30/2005
 MIN LBS TO GRAPH 2
 SELECTED ECOSITE 070BY063NM

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	ANHA	216	270	5.00	37.24	19.65	11.93
2	Grass	ANSC2	216	270	9.94	264.66	113.08	78.57
3	Grass	SPCR	216	270	0.00	69.00	21.63	19.34
3	Grass	SPFL2	216	270	5.76	9.33	7.55	1.79
4	Grass	BOHI2	144	180	4.26	52.56	27.26	15.93
5	Grass	ARIST	90	126	0.00	103.04	34.53	29.27
5	Grass	ARPU9	90	126	37.84	43.70	40.77	2.93
6	Grass	PAST6	72	108	0.00	16.00	5.74	5.86
8	Grass	LECO	18	54	5.00	90.86	35.18	24.61
9	Grass	CEPA7	0	36	0.00	5.92	1.73	2.45
12	Grass	BOER4	54	90	1.00	6.80	3.45	2.22
15	Grass	EROX	54	90	0.00	58.32	18.06	19.89
16	Grass	ERSE2	0	18	0.00	5.36	2.66	2.66
18	Grass	CAREX	0	18	0.00	36.92	6.96	13.42
21	Forb	ERIOG	54	90	0.00	5.16	2.38	2.13
23	Forb	HEAN3	36	72	4.99	9.60	7.30	2.31
25	Forb	AMBRO	36	54	5.00	9.24	7.12	2.12
25	Forb	AMPS	36	54	0.00	20.00	7.27	9.03
26	Forb	AAFF	54	90	0.00	12.00	3.13	3.65
27	Forb	CRJA2	18	54	2.27	3.00	2.64	0.37
27	Forb	SENEC	18	54	0.00	6.75	3.29	3.29
30	Shrub	QUHA3	0	216	45.26	586.96	288.79	152.81
31	Shrub	ARFI2	126	162	0.45	62.40	31.43	30.98
32	Shrub	GUSA2	18	54	1.00	5.68	4.12	2.20
33	Shrub	YUGL	18	36	8.67	142.00	75.34	66.67
38	Shrub	YUCCA	18	54	0.00	14.00	5.92	5.23

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
38	Tree	YUEL	18	54	4.00	15.00	9.50	5.50
40	Shrub	PRGL2	0	0	0.00	13.33	8.62	6.11



Production Lbs/Acre Trends

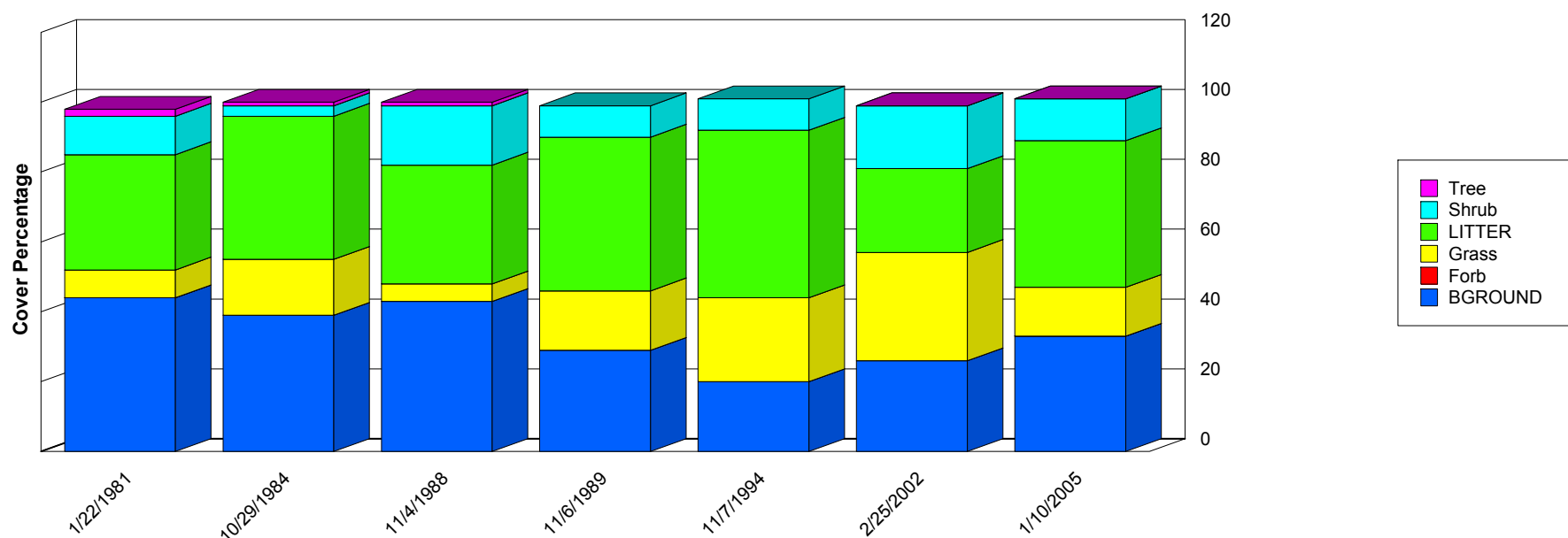


	1/22/1981	11/4/1981	10/20/1982	11/7/1983	10/29/1984	11/4/1988	11/6/1989	11/7/1994	2/25/2002	1/10/2005
Forb	9.00	65.84	2.58	14.68	29.68	23.56	12.00	0.00	5.16	18.14
Grass	93.00	430.26	99.94	217.68	313.65	370.96	404.00	263.00	369.75	245.68
Shrub	373.00	586.96	478.20	346.26	256.94	161.20	381.00	360.00	159.66	61.38
Tree	15.00	0.00	0.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	490.00	1,083.06	580.72	582.62	600.27	555.72	797.00	623.00	534.57	325.20

Report Parameters

SITE NAME LIKE 65044-EAST-D093
 ON/AFTER 10/01/1977
 ON/BEFORE 09/30/2005

Ground Cover Trends



	1/22/1981	10/29/1984	11/4/1988	11/6/1989	11/7/1994	2/25/2002	1/10/2005
BGROUND	44.00	39.00	43.00	29.00	20.00	26.00	33.00
Forb	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grass	8.00	16.00	5.00	17.00	24.00	31.00	14.00
LITTER	33.00	41.00	34.00	44.00	48.00	24.00	42.00
Shrub	11.00	3.00	17.00	9.00	9.00	18.00	12.00
Tree	2.00	1.00	1.00	0.00	0.00	0.00	0.00
Total	98.00	100.00	100.00	99.00	101.00	99.00	101.00

Report Parameters

SITE NAME LIKE	65044-EAST-D093
ON/AFTER	10/01/1977
ON/BEFORE	09/30/2005

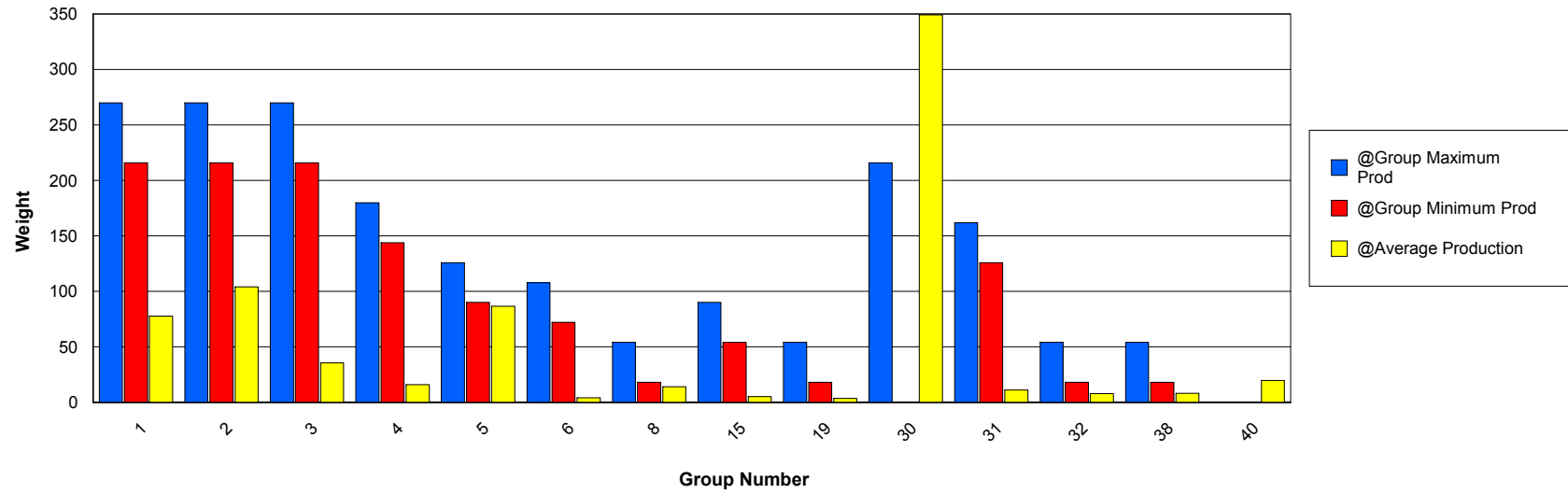
Functional / Structural Groups

Report Parameters

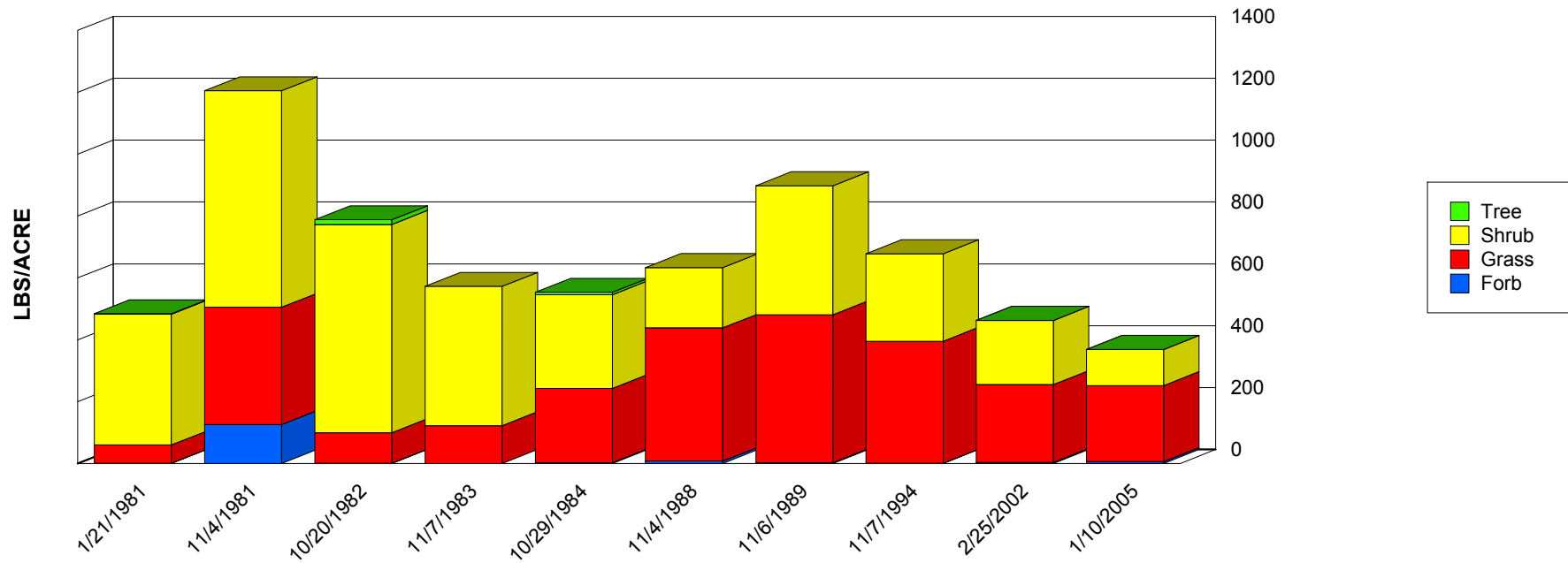
SITE NAME LIKE 65044-WEST-D092
 ON/AFTER 10/01/1980
 ON/BEFORE 09/30/2005
 MIN LBS TO GRAPH 2
 SELECTED ECOSITE 070BY063NM

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	ANHA	216	270	2.00	232.40	77.65	74.32
2	Grass	ANSC2	216	270	18.00	248.22	104.08	72.80
3	Grass	SPCO4	216	270	0.00	48.00	16.53	16.77
3	Grass	SPCR	216	270	0.00	70.00	18.92	22.22
4	Grass	BOHI2	144	180	2.00	48.60	15.91	17.58
5	Grass	ARIST	90	126	0.00	107.10	42.13	35.54
5	Grass	ARPU9	90	126	41.28	47.50	44.39	3.11
6	Grass	PAST6	72	108	0.67	11.27	4.17	3.52
8	Grass	LECO	18	54	4.00	77.00	14.17	22.26
9	Grass	MUSQ	0	36	0.00	0.67	0.22	0.31
15	Grass	EROX	54	90	0.00	12.60	5.19	4.77
18	Grass	CAREX	0	18	0.00	5.68	1.43	2.16
19	Grass	TRMU	18	54	1.92	4.96	3.44	1.52
21	Forb	ERIOG	54	90	0.00	3.73	1.76	1.53
26	Forb	AAFF	54	90	0.00	3.00	1.05	0.94
30	Shrub	QUHA3	0	216	97.34	657.72	349.35	171.08
31	Shrub	ARFI2	126	162	0.00	52.80	11.03	16.44
32	Shrub	GUSA2	18	54	0.00	18.13	7.85	7.01
38	Shrub	YUCCA	18	54	0.00	6.67	3.33	3.33
38	Tree	YUEL	18	54	0.00	15.04	4.81	5.93
39	Shrub	TIDES	18	54	0.00	0.30	0.10	0.14
40	Shrub	PRGL2	0	0	0.00	50.00	19.83	19.65

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
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Production Lbs/Acre Trends

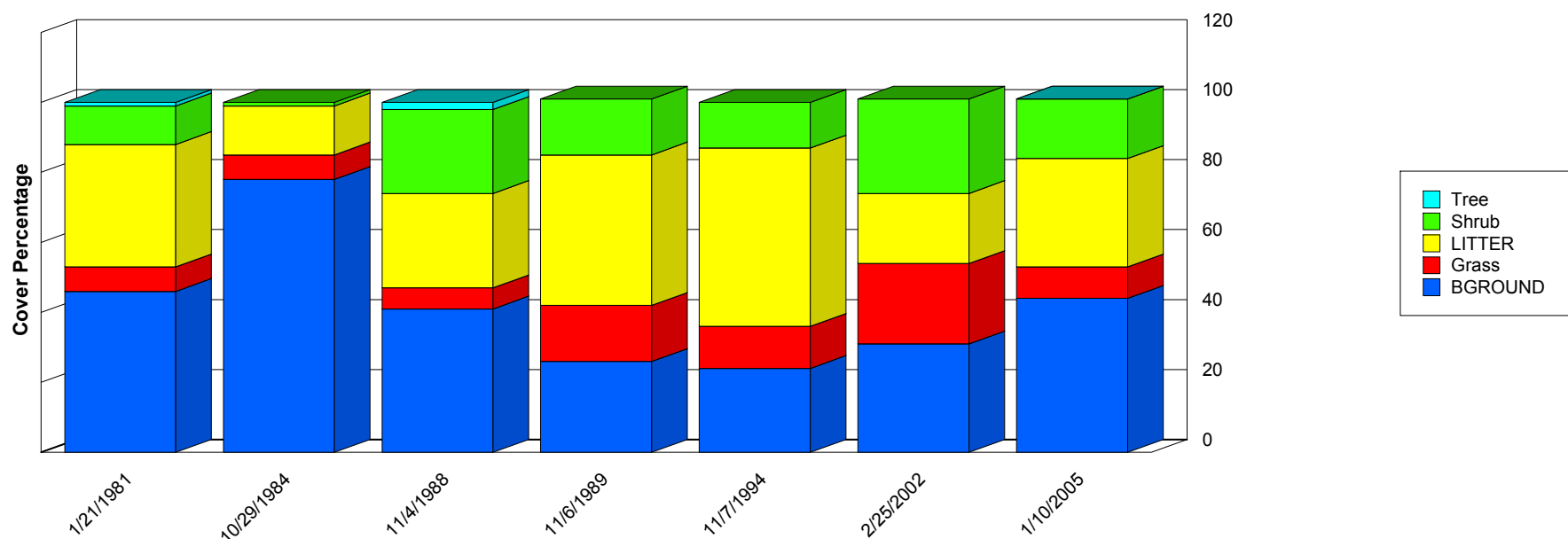


	1/21/1981	11/4/1981	10/20/1982	11/7/1983	10/29/1984	11/4/1988	11/6/1989	11/7/1994	2/25/2002	1/10/2005
Forb	1.00	126.22	0.86	0.00	3.01	7.92	3.00	1.00	3.73	6.01
Grass	59.00	378.90	98.62	122.58	240.04	430.44	478.00	394.00	251.42	245.79
Shrub	423.00	699.64	673.32	450.06	302.47	194.56	417.00	283.00	207.31	116.80
Tree	1.00	0.00	15.04	0.00	8.00	0.00	0.00	0.00	0.00	0.00
Total	484.00	1,204.76	787.84	572.64	553.53	632.92	898.00	678.00	462.45	368.60

Report Parameters

SITE NAME LIKE 65044-WEST-D092
 ON/AFTER 10/01/1977
 ON/BEFORE 09/30/2005

Ground Cover Trends



	1/21/1981	10/29/1984	11/4/1988	11/6/1989	11/7/1994	2/25/2002	1/10/2005
BGROUND	46.00	78.00	41.00	26.00	24.00	31.00	44.00
Grass	7.00	7.00	6.00	16.00	12.00	23.00	9.00
LITTER	35.00	14.00	27.00	43.00	51.00	20.00	31.00
Shrub	11.00	1.00	24.00	16.00	13.00	27.00	17.00
Tree	1.00	0.00	2.00	0.00	0.00	0.00	0.00
Total	100.00	100.00	100.00	101.00	100.00	101.00	101.00

Report Parameters

SITE NAME LIKE	65044-WEST-D092
ON/AFTER	10/01/1977
ON/BEFORE	09/30/2005

Robel Pole Summary over Time Report

Report Parameters

SITE NAME LIKE 65044-EAST-D093

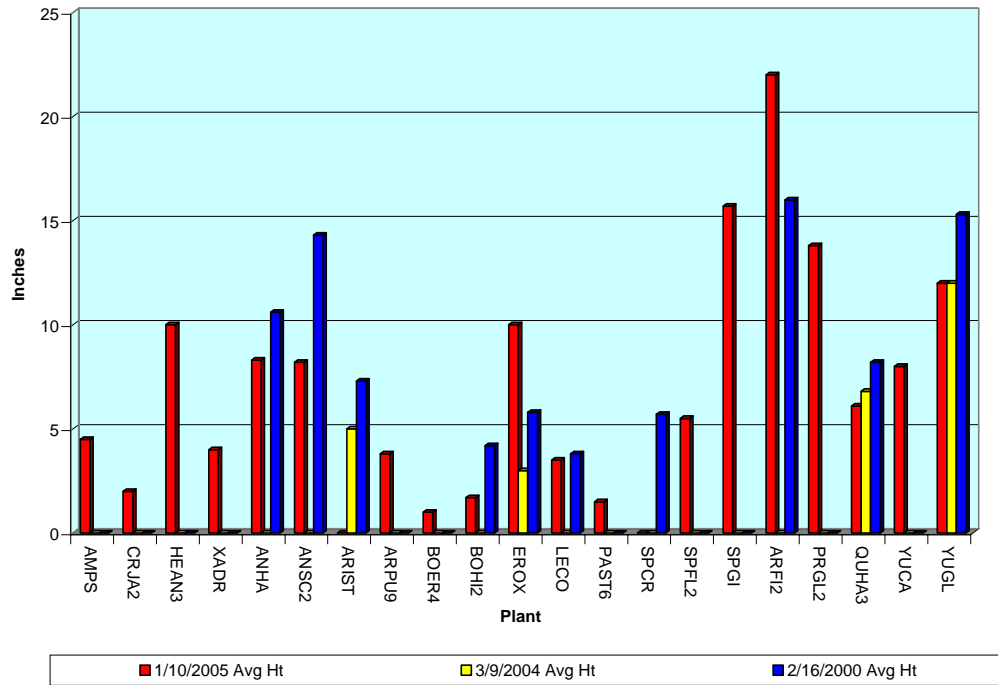
ON/AFTER 10/01/1999

ON/BEFORE 09/30/2005

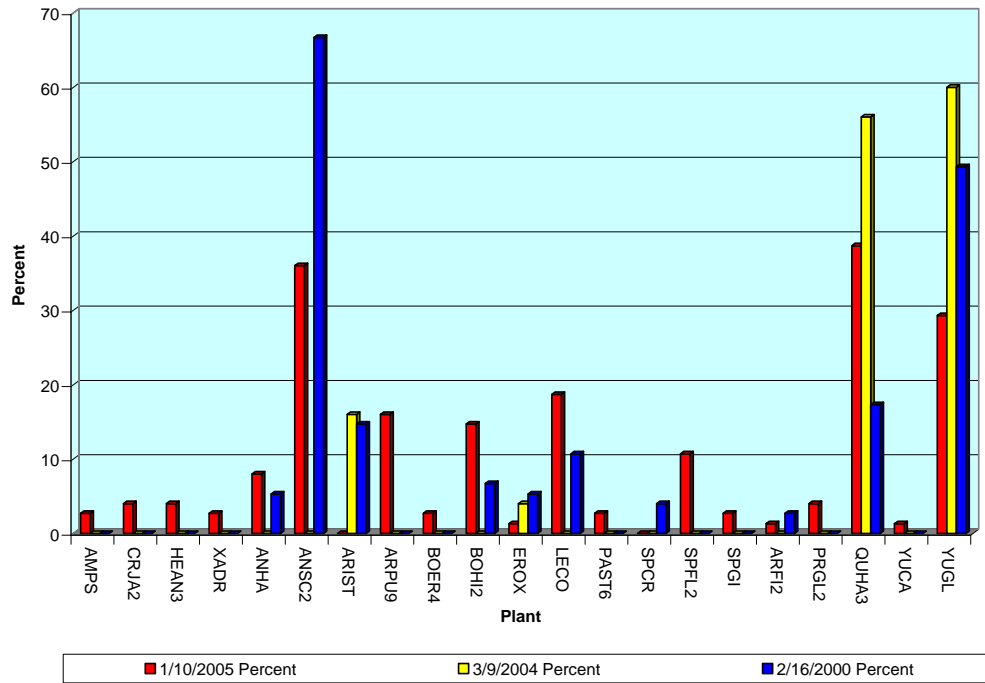
Primary Obstructions	65044-EAST-D093	65044-EAST-D093	65044-EAST-D093
	01/10/2005	03/09/2004	02/16/2000
Flag Stations	1	0	12
	% Hits	% Hits	% Hits
BGROUND	38.7 %	64.0 %	38.7 %
LITTER	45.3 %	36.0 %	42.7 %
QUHA3	1.3 %	0.0 %	0.0 %
YUGL	1.3 %	0.0 %	0.0 %
ANHA	2.7 %	0.0 %	1.3 %
ANSC2	2.7 %	0.0 %	10.7 %
ARIST	0.0 %	0.0 %	1.3 %
ARPU9	1.3 %	0.0 %	0.0 %
BOHI2	1.3 %	0.0 %	2.7 %
LECO	5.3 %	0.0 %	1.3 %
SPCR	0.0 %	0.0 %	1.3 %

Secondary Obstructions	65044-EAST-D093		65044-EAST-D093		65044-EAST-D093	
	01/10/2005		03/09/2004		02/16/2000	
	Percent	Avg Ht	Percent	Avg Ht	Percent	Avg Ht
AMPS	2.7	4.5	0.0	0.0	0.0	0.0
ANHA	8.0	8.3	0.0	0.0	5.3	10.6
ANSC2	36.0	8.2	0.0	0.0	66.7	14.3
ARFI2	1.3	22.0	0.0	0.0	2.7	16.0
ARIST	0.0	0.0	16.0	5.0	14.7	7.3
ARPU9	16.0	3.8	0.0	0.0	0.0	0.0
BOER4	2.7	1.0	0.0	0.0	0.0	0.0
BOHI2	14.7	1.7	0.0	0.0	6.7	4.2
CRJA2	4.0	2.0	0.0	0.0	0.0	0.0
EROX	1.3	10.0	4.0	3.0	5.3	5.8
HEAN3	4.0	10.0	0.0	0.0	0.0	0.0
LECO	18.7	3.5	0.0	0.0	10.7	3.8
PAST6	2.7	1.5	0.0	0.0	0.0	0.0
PRGL2	4.0	13.8	0.0	0.0	0.0	0.0
QUHA3	38.7	6.1	56.0	6.8	17.3	8.2
SPCR	0.0	0.0	0.0	0.0	4.0	5.7
SPFL2	10.7	5.5	0.0	0.0	0.0	0.0
SPGI	2.7	15.7	0.0	0.0	0.0	0.0
XADR	2.7	4.0	0.0	0.0	0.0	0.0
YUCA	1.3	8.0	0.0	0.0	0.0	0.0
YUGL	29.3	12.0	60.0	12.0	49.3	15.3

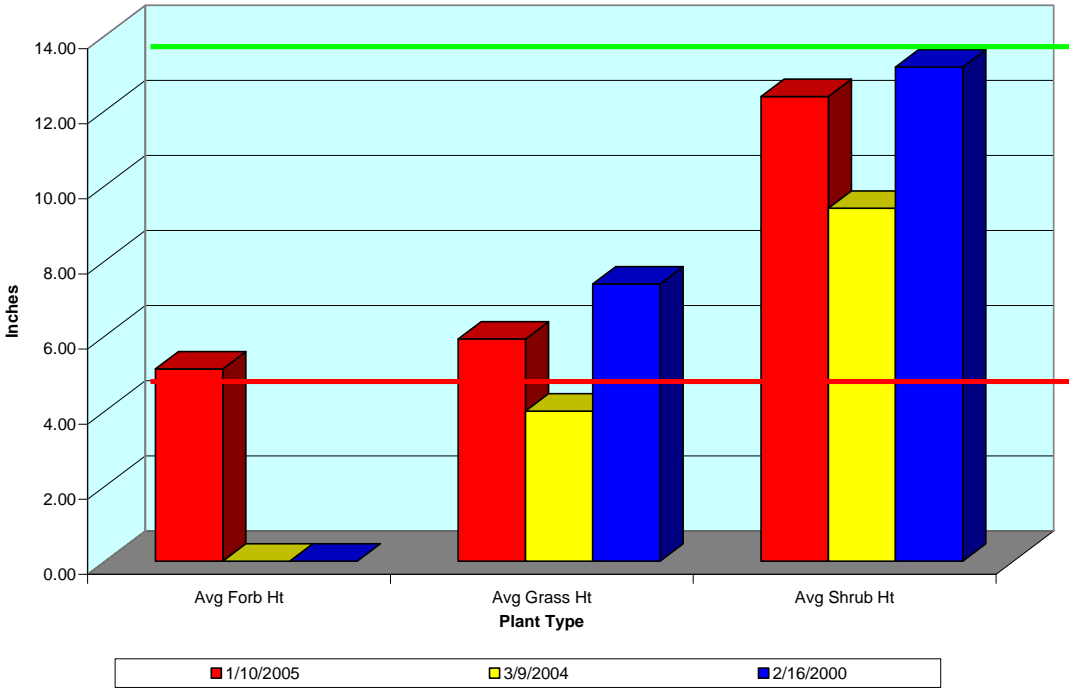
Average Visual Obstruction Height



Plant Composition



Plant Type Average Visual Obstruction Height



Robel Pole Summary over Time Report

Report Parameters

SITE NAME LIKE 65044-WEST-D092

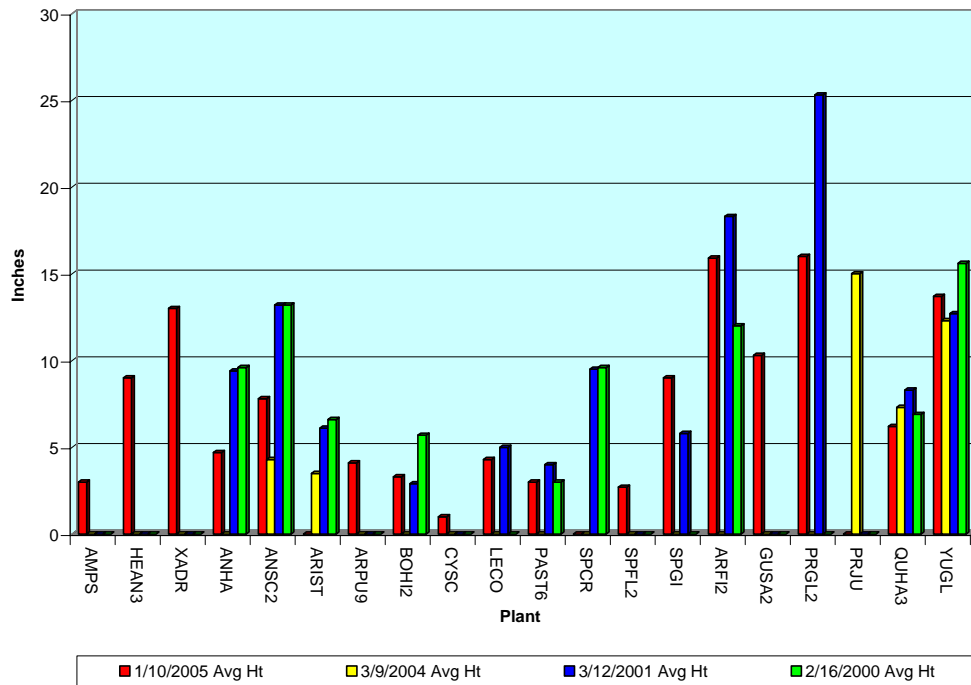
ON/AFTER 10/01/1999

ON/BEFORE 09/30/2005

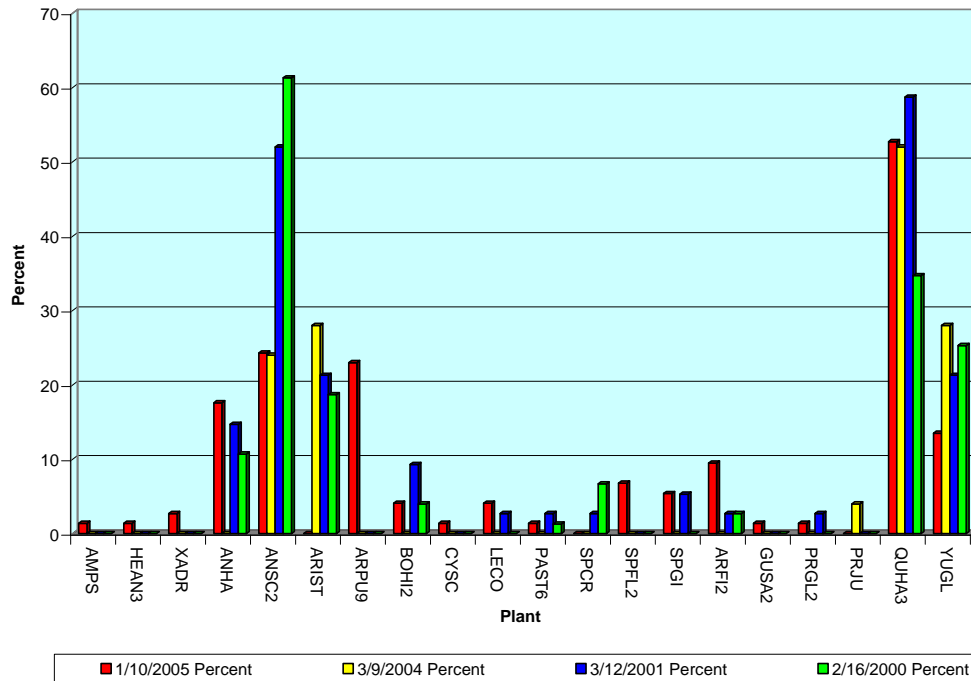
Primary Obstructions	65044-WEST-D092	65044-WEST-D092	65044-WEST-D092	65044-WEST-D092
	01/10/2005	03/09/2004	03/12/2001	02/16/2000
Flag Stations	0	0	8	7
	% Hits	% Hits	% Hits	% Hits
BGROUND	35.1 %	68.0 %	45.3 %	42.7 %
LITTER	54.1 %	32.0 %	38.7 %	45.3 %
GUSA2	1.4 %	0.0 %	0.0 %	0.0 %
QUHA3	6.8 %	0.0 %	2.7 %	0.0 %
YUGL	0.0 %	0.0 %	4.0 %	1.3 %
ANHA	0.0 %	0.0 %	2.7 %	0.0 %
ANSC2	2.7 %	0.0 %	4.0 %	6.7 %
ARIST	0.0 %	0.0 %	2.7 %	4.0 %

Secondary Obstructions	65044-WEST-D092		65044-WEST-D092		65044-WEST-D092		65044-WEST-D092	
	01/10/2005		03/09/2004		03/12/2001		02/16/2000	
	Percent	Avg Ht	Percent	Avg Ht	Percent	Avg Ht	Percent	Avg Ht
AMPS	1.4	3.0	0.0	0.0	0.0	0.0	0.0	0.0
ANHA	17.6	4.7	0.0	0.0	14.7	9.4	10.7	9.6
ANSC2	24.3	7.8	24.0	4.3	52.0	13.2	61.3	13.2
ARFI2	9.5	15.9	0.0	0.0	2.7	18.3	2.7	12.0
ARIST	0.0	0.0	28.0	3.5	21.3	6.1	18.7	6.6
ARPU9	23.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0
BOHI2	4.1	3.3	0.0	0.0	9.3	2.9	4.0	5.7
CYSC	1.4	1.0	0.0	0.0	0.0	0.0	0.0	0.0
GUSA2	1.4	10.3	0.0	0.0	0.0	0.0	0.0	0.0
HEAN3	1.4	9.0	0.0	0.0	0.0	0.0	0.0	0.0
LECO	4.1	4.3	0.0	0.0	2.7	5.0	0.0	0.0
PAST6	1.4	3.0	0.0	0.0	2.7	4.0	1.3	3.0
PRGL2	1.4	16.0	0.0	0.0	2.7	25.3	0.0	0.0
PRJU	0.0	0.0	4.0	15.0	0.0	0.0	0.0	0.0
QUHA3	52.7	6.2	52.0	7.3	58.7	8.3	34.7	6.9
SPCR	0.0	0.0	0.0	0.0	2.7	9.5	6.7	9.6
SPFL2	6.8	2.7	0.0	0.0	0.0	0.0	0.0	0.0
SPGI	5.4	9.0	0.0	0.0	5.3	5.8	0.0	0.0
XADR	2.7	13.0	0.0	0.0	0.0	0.0	0.0	0.0
YUGL	13.5	13.7	28.0	12.3	21.3	12.7	25.3	15.6

Average Visual Obstruction Height



Plant Composition



Plant Type Average Visual Obstruction Height

